AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph beginning on page 3, line 1 and ending on page 3, line 4, with the following amended paragraph:

In one aspect, the present invention provides a bipolar plate for a fuel cell, the bipolar plate including a flow field through which one of a fuel and an oxidant is allowed to flow, wherein the flow field has a length that is between three and eight times greater than the square root of the area of the bipolar plate.

Please replace the paragraph beginning on page 3, line 24 and ending on page 3, line 31, with the following amended paragraph:

In another aspect, the present invention provides a fuel cell comprising: a first bipolar plate having a fuel flow field; a second bipolar plate having an air flow field; and a membrane electrode assembly interposed between the first and second bipolar plates and in which reactions of a fuel and an oxidant take place, wherein the fuel flow field has a length that is between three and eight times greater than the square root of the area of the first bipolar plate, and the air flow field has a length that is between three and eight times greater than the square root of the area of the second bipolar plate.

Please replace the paragraph beginning on page 6, line 12 and ending on page 6, line 19, with the following amended paragraph:

In the reaction plate 37, a first flow field 33 that has a serpentine shape is formed comprising an inlet 32 and an outlet 34 which face the same direction and through which a fuel or an oxidant is allowed to flow. The length of the first flow field 33 is three to eight times, preferably, four to seven times, greater than the square root of the area of the first bipolar plate 31. The length of the first flow field 33 is about one third shorter than the length of a conventional flow field. The first flow path 33 has a smaller number of 90- and 180-

degree turns than a conventional flow field. Throughout the specification, 90-degree turns are also referred to as corners.